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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/853,448	05/10/2001	Richard A. Holl	18925-16	6301

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EXAMINER

GURZO, PAUL M

ART UNIT PAPER NUMBER

2881

DATE MAILED: 01/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/853,448

Applicant(s)

HOLL, RICHARD A.

Examiner

Paul Gurzo

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-41 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 May 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☒ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2 and 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Priority***

An application in which the benefits of an earlier application are desired must contain a specific reference to the prior application(s) in the first sentence of the specification or in an application data sheet (37 CFR 1.78(a)(2) and (a)(5)).

### ***Oath/Declaration***

The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

It does not identify the city and either state or foreign country of residence of each inventor. The residence information may be provided on either on an application data sheet or supplemental oath or declaration.

### ***Drawings***

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "34" has been used to designate both an annular passage and an exchange material. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

*Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 5, 7-10, 13, 15, 18, 21-23, 25, 27-30, 33, 35, and 38 are rejected under 35 U.S.C. 102(b) as being anticipated by Bischof et al. (5,300,019).

Bischof et al. teach an apparatus, method and means for processing materials by passing materials in a flow path through an annular processing passage between two closely spaced surfaces (22 and 24) provided by respective inner (25) and outer (23) cylindrical apparatus members with one rotating relative to the other irradiating the materials with processing energy through a wall of one of the two members (col. 2, line 1 - col. 3, line 4, col. 4, lines 45-61, and Fig. 1-5). They teach that the radiation is within a prescribed wavelength range and they teach the claimed rotation and, while not stated, it is inherent to the design that the radial spacing is constant as shown in Fig. 4 (col. 2, lines 7-40).

They also teach the claimed vertical orientation in Fig. 2, as well as having the processing energy passing through at least one window in the wall of the outer member (col. 2, lines 60-66). They teach that this apparatus is used for eradicating fluids such as blood, which is opaque, and the prescribed wavelength taught above teaches on the use of light irradiation. They also teach the production of eddies (col. 2, lines 33-40) and the use of gold or like highly reflective material for reflecting the wavelengths of radiation (col. 7, lines 13-15 and col. 8, lines 13-21).

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***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6, 14, 26, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bischof et al. (5,300,019), and further in view of Holl (5,538,191).

Regarding claims 6 and 26, the above-applied prior art is silent to the use of a horizontally oriented parallel axes, but Holl teaches that the rotational axis can be vertical or horizontal (col. 3, line 50). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus taught by Bischof et al. to include horizontal orientation because this orientation can provide a more efficient operation or easier handling.

Regarding claims 14 and 34, Holl teaches the use of a transducer (col. 6, lines 2-7).

Claims 4, 11, 12, 16, 17, 19, 20, 24, 31, 32, 36, 37, 39, 40 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bischof et al. (5,300,019), in view of Holl (5,538,191), and further in view of applicant's admitted prior art.

The prior art does not explicitly specify the claimed use of electromagnetic energy, but the applicant states that it is well known in the art to process substances in the form of liquids, solids, or gases by applying energy in the form of heat, visible, ultraviolet, or infrared light as well as longitudinal pressure oscillations, microwave, X-ray or gamma irradiations (page 1, paragraph 0006). Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to use electromagnetic energy because it is known to be useful for increasing reaction rates or sterilizing substances.

Further, having the height of the annular processing passage less than the penetration depth of the electromagnetic energy is a matter of design choice and is inherent to Holl, who teaches an elongated chamber of thin rectangular cross section (col. 5, lines 7-17). This design will succeed in eliminating the claimed Taylor vortices that are taught by Bischof et al. (col. 5, lines 15-21). In addition, any modification, such as the linear velocity and energy frequency range is considered inherent to the above-applied art and is not given patentable weight.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following teach of radiation systems similar to the applicant's:

Noll et al. (4,769,131)

Holl (4,784,218)

Lee et al. (4,921,473)

Nesathurai (4,983,307)

Stuart (5,370,999)

Takeuchi (5,674,004)

Mowat (6,464,936)


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Gurzo whose telephone number is (703) 306-0532. The examiner can normally be reached on M-Thurs. 7:30 - 6:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Lee can be reached on (703) 308-4116. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

PMG  
January 2, 2003

  
JOHN R. LEE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800